

WHAT IS CLAIMED IS:

1. An apparatus comprising a tag having circuitry which includes:

5 a receiver section operable to receive wireless signpost signals that each include a signpost code; and

a transmitter section operable to transmit wireless beacon signals which each include a beacon code associated with said tag, said transmitter section being responsive to receipt by said receiver section of a respective said signpost signal for including in at least one said beacon signal the signpost code from the received signpost signal;

15 wherein said transmitter section is operable to transmit said beacon signals in a selected one of first and second formats which are different, said transmitter section using said first format in response to receipt of one of said signpost signals and using said second format in response to the absence of receipt of any of said signpost signals for a specified time interval, said first format including a signpost field containing the signpost code from the most recently received signpost signal, and said second format lacking said signpost field and being shorter in length than said first format.

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2. A method comprising the steps of:

receiving in a receiver section of a tag wireless signpost signals that each include a signpost code; and

5 transmitting from a transmitter section of said tag wireless beacon signals which each include a beacon code associated with said tag, said transmitting step including the steps of:

10 causing said transmitter section to be responsive to receipt by said receiver section of a respective said signpost signal for including in at least one said beacon signal the signpost code from the received signpost signal; and

15 causing said transmitter section to transmit said beacon signals in a selected one of first and second formats which are different, said transmitter section using said first format in response to receipt of one of said signpost signals and using said second format in response to the absence of receipt of any of said signpost signals for a specified time interval, said first format including a signpost field containing the signpost code from the most recently received signpost signal, and said second format lacking said signpost field and being shorter in length than said first format.

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3. An apparatus comprising a tag having circuitry which includes:

a receiver section operable to receive wireless signpost signals that each include a signpost code; and

5 a transmitter section operable to transmit wireless beacon signals which each include a beacon code associated with said tag, said transmitter section being responsive to receipt by said receiver section of a respective said signpost signal for including in at least one said beacon signal the signpost code from the received signpost signal;

10 15 wherein said transmitter section is responsive to receipt by said receiver section of one of said signpost signals for automatically effecting variation in a predetermined manner of at least one of a transmission power level and a transmission rate for said beacon signals.

20 4. An apparatus according to Claim 3, wherein said transmitter section is operative to carry out said variation by:

25 transmitting a first series of said beacon signals containing the signpost code at a first transmission power level; and

30 thereafter transmitting a second series of said beacon signals containing the signpost code at a second transmission power level which is higher than said first transmission power level, said first series being transmitted at an effective first rate which is substantially higher than an effective second rate at which said second series is transmitted.

5. An apparatus according to Claim 4,

wherein said transmission of said first series is carried out by defining a plurality of successive first time slots and transmitting each of said beacon signals of said first series at a substantially randomly selected time within a respective said first time slot; and

10 wherein said transmission of said second series is carried out by defining a plurality of successive second time slots and transmitting each of said beacon signals of said second series at a substantially randomly selected time within a respective said second time slot, said second time slots being substantially longer than said first time slots.

15 6. An apparatus according to Claim 4, wherein said first rate is at least ten times said second rate.

20 7. An apparatus according to Claim 4, wherein said transmitter section is further operative to carry out said variation by inhibiting transmission of said beacon signals during a time interval which occurs between transmission of said first and second series.

25 8. An apparatus according to Claim 4, wherein said transmitter section is further operative to carry out said variation by transmitting, after said first series and before said second series, a third series of said beacon signals containing the signpost code at said first transmission power level and at an effective third rate which is less than said first rate and greater than said second rate.

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9. An apparatus according to Claim 8, wherein said transmission of said third series is carried out by defining a plurality of successive third time slots and transmitting each of said beacon signals of said third series at a substantially randomly selected time within a respective said third time slot, said third time slots being substantially longer than said first time slots and substantially shorter than said second time slots.

10 10. An apparatus according to Claim 8, wherein said first rate is approximately ten times said third rate, and said third rate is approximately ten times said second transmission rate.

15 11. An apparatus according to Claim 8, wherein said transmitter section is further operative to carry out said variation by inhibiting transmission of said beacon signals during each of first and second time intervals, said first time interval occurring between said first and third series, and said second time interval occurring between said third and second series.

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12. A method, comprising the steps of:

receiving in a receiver section of a tag wireless signpost signals that each include a signpost code; and

5 transmitting from a transmitter section of said tag wireless beacon signals which each include a beacon code associated with said tag, said transmitting step including the steps of:

10 causing said transmitter section to be responsive to receipt by said receiver section of a respective said signpost signal for including in at least one said beacon signal the signpost code from the received signpost signal; and

15 causing said transmitter section to be responsive to receipt by said receiver section of one of said signpost signals for automatically effecting variation in a predetermined manner of at least one of a transmission power level and a transmission rate for said beacon signals.

20 13. A method according to Claim 12, wherein said step of automatically effecting variation includes the steps of:

25 transmitting a first series of said beacon signals containing the signpost code at a first transmission power level; and

30 thereafter transmitting a second series of said beacon signals containing the signpost code at a second transmission power level which is higher than said first transmission power level, said first series being transmitted at an effective first rate which is substantially higher than an effective second rate at which said second series is transmitted.

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14. A method according to Claim 13,
wherein said step of transmitting said first series
is carried out by defining a plurality of successive
5 first time slots and transmitting each of said beacon
signals of said first series at a substantially randomly
selected time within a respective said first time slot;
and

10 wherein said step of transmitting said second series
is carried out by defining a plurality of successive
second time slots and transmitting each of said beacon
signals of said second series at a substantially randomly
selected time within a respective said second time slot,
said second time slots being substantially longer than
15 said first time slots.

15. A method according to Claim 13, including the
step of selecting said first rate to be at least ten
times said second rate.

20 16. A method according to Claim 13, wherein said
step of automatically effecting variation further
includes the step of inhibiting transmission of said
beacon signals during a time interval which occurs
25 between transmission of said first and second series.

17. A method according to Claim 13, wherein said
step of automatically effecting variation further
includes the step of transmitting, after said first
series and before said second series, a third series of
said beacon signals containing the signpost code at said
first transmission power level and at an effective third
rate which is less than said first rate and greater than
said second rate.

10 18. A method according to Claim 17, wherein said
step of transmitting said third series is carried out by
defining a plurality of successive third time slots and
transmitting each of said beacon signals of said third
series at a substantially randomly selected time within a
15 respective said third time slot, said third time slots
being substantially longer than said first time slots and
substantially shorter than said second time slots.

19. A method according to Claim 17, including the
20 steps of selecting said first rate to be approximately
ten times said third rate, and selecting said third rate
to be approximately ten times said second transmission
rate.

25 20. A method according to Claim 17, wherein said
step of automatically effecting variation further
includes the step of inhibiting transmission of said
beacon signals during each of first and second time
intervals, said first time interval occurring between
30 said first and third series, and said second time
interval occurring between said third and second series.